REMARKS

The amendment to the specification, at page 1, lines 3-4, updates the continuing data background of the application.

The amendment of Claim 1, which adds paragraph designations (a)-(c) is merely for greater clarity and convenience, and is not related to any issue of patentability.

The amendment of Claim 1, in the last paragraph (c) at line 11, which recites ". . . in an amount effective to suppress the expression of functional gene product of MSX1 and/or HES1 . . ." is merely for greater clarity, and is not made in response to any rejection or prior art of record. Support for the amendment is found, for example, in the same paragraph of Claim 1, at line 9; especially at page 10, lines 1-4; and in Table 1, page 29, lines 24-25.

The amendment of Claims 41 and 42, at first and second lines in step (d), to recite "chemotherapeutic agent" instead of "nerve growth factor" is to correct a typographical error. Support for the amendment is found, for example, in the preamble, step (c), and the last line of step (d) of each of Claims 41 and 42, as originally filed.

Applicant respectfully requests the Examiner to refer to Applicant's remarks concerning the pending Office Action (mailed November 22, 2000) in Applicant's Response to Office Action, which Applicant mailed on March 22, 2001.

CONCLUSION

In view of the above amendments and Applicant's remarks in the Response to Office Action, which applicant mailed on March 22, 2001, it is submitted that this application is now ready for allowance. If, in the oinion of the Examiner, a telephone conference would expedite

the prosecution of the subject application, the Examiner is invited to call the undersigned attorney at (213) 896-6665.

Respectfully submitted,

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Version with Markings to Show Changes Made

In the Specification:

At page 1, please delete lines 3 and 4 in their entirety, and insert therefor:

--This application is a continuation-in-part of U.S. Patent Application Serial No. 09/234,332, filed on January 20, 1999, which issued as U.S. Patent No. 6,087,168 on July 11, 2000.--.

In the claims:

Please amend Claims 1, 41, and 42, as follows:

1. (Amended) A method of transdifferentiating an epidermal basal cell into a cell having one or more morphological, physiological and/or immunological feature(s) of a neural progenitor, neuronal, or glial cell, comprising:

(a) culturing a proliferating epidermal basal cell population comprising one or more epidermal basal cell(s), said cell(s) derived from the skin of a mammalian subject;

(b) exposing the cell(s) to an amount of an antagonist of bone morphogenetic protein (BMP) effective to antagonize endogenous BMP signal transduction activity; and

(c) growing the cell(s) in the presence of at least one antisense oligonucleotide comprising a segment of a human MSX1 gene and/or a segment of a human HES1 gene, or homologous non-human counterpart of either of these, in an amount effective to suppress the expression of functional gene product of MSX1 and/or HES1, whereby the cell is transdifferentiated into a cell having one or more morphological, physiological and/or immunological feature(s) of a neural progenitor, neuronal, or glial cell.

41. (Amended) A method of using cells transdifferentiated from epidermal basal cells to identify a potential chemotherapeutic agent comprising:

(a) transdifferentiating a population of epidermal basal cells into neuronal progenitor, neuronal, or glial cells by the method of Claim 1;

(b) culturing the transdifferentiated cells;

(c) exposing the cultured cells, in vitro, to a potential chemotherapeutic agent; and

(d) detecting the presence or absence of an effect of the potential [nerve growth factor] chemotherapeutic agent on the survival of the cells or on a morphological or electrophysiological characteristic and/or molecular biological property of said cells, whereby the presence of an effect altering cell survival, a morphological or electrophysiological characteristic and/or a molecular biological property of the cells indicates the activity of the chemotherapeutic agent.

42. (Amended) A method of using transdifferentiated cells to screen a potential chemotherapeutic agent to treat a nervous system disorder of genetic origin, comprising:

(a) transdifferentiating epidermal basal cells derived from a human subject having a genetically-based nervous system disorder to a population of neuronal cells by the method of Claim 1;

(b) culturing the transdifferentiated cells;

(c) exposing the cells, in vitro, to a potential chemotherapeutic agent; and

(d) detecting the presence or absence of an effect of the potential [nerve growth factor] chemotherapeutic agent on the survival of the cells or on a morphological or electrophysiological characteristic and/or molecular biological property of said cells, whereby the presence of an effect altering cell survival, a morphological or electrophysiological characteristic and/or a molecular biological property of the cells indicates the activity of the chemotherapeutic agent.